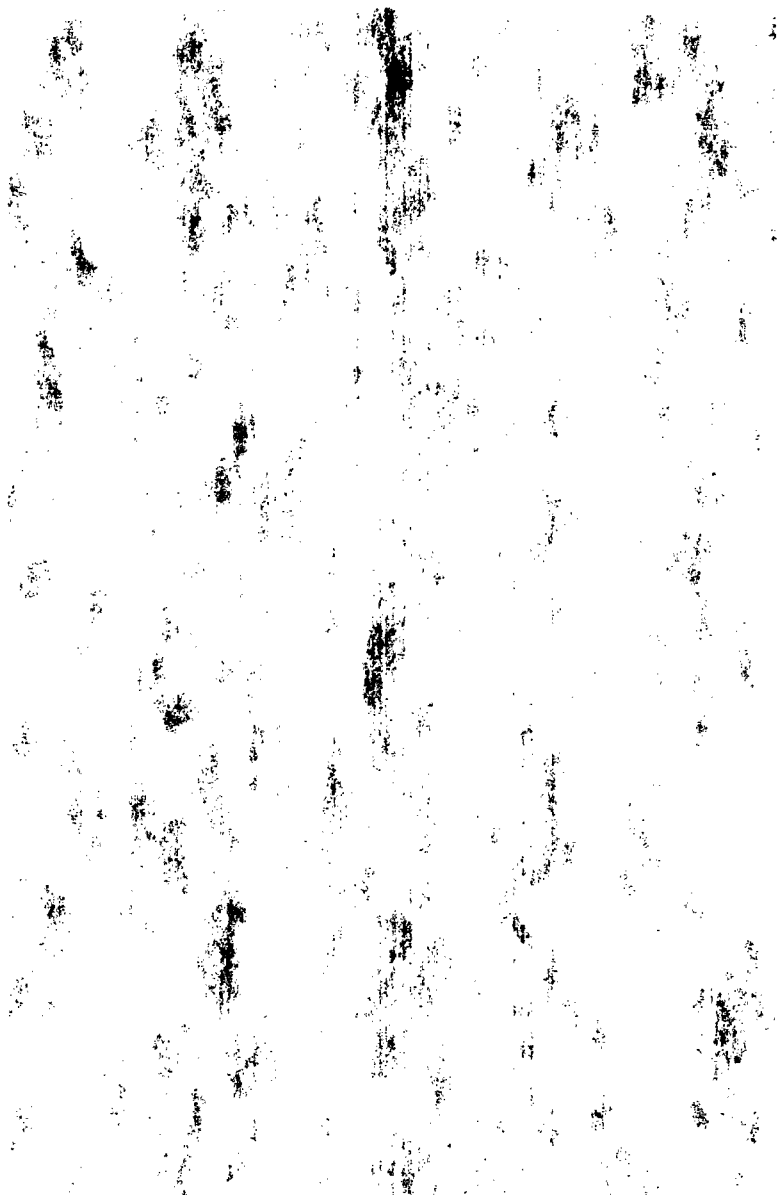
Monthly Oversight Report 70 (FINAL)
44728 AES *[46526 RAC]*
ACS NPL Site
Griffith, Indiana
September 30, 2006 – November 3, 2006



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Black & Veatch Special Projects Corp.

USEPA/AES
American Chemical Service, Inc. RAO (0057-ROBE-05J7)

BVSPC Project 44728
BVSPC File C.3
November 15, 2006

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report No. 70 for October 2006 (FINAL)

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 70 for October 2006 for the American Chemical Service, Inc. Superfund Site in Griffith, Indiana. As directed, this will be the final Oversight Summary Report since Task Order No. 0057 is being closed.

If you have any questions, please call (312-683-7856) or email (campbelllm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 70 (FINAL)
ACS Superfund Site
TO 057, 44728.238 (AES) ***[WA57, 46526.238 (RAC)]***

Reporting Period: Month of October (September 30, 2006 – November 3, 2006)
BVSPC O/S Dates: October 19, 2006 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	4	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Austgen & Austgen Electric	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- Montgomery Watson Harza conducted the annual plant maintenance during the week of October 2-6.
- Montgomery Watson Harza re-sampled the residential well at 1009 Reder Road.
- Montgomery Watson Harza conducted an operation and maintenance meeting at its Chicago office on October 5.

Activities Performed:

- Observed MWH continue to operate the groundwater treatment plant (GWTP) at a flow-demand rate of 22 to 40 gpm, treating 841,866 gallons during 604 of the 672 hours (90%) in the October period (September 29 – October 27). MWH reported that groundwater was pumped to the plant from all trench and well sources except MW10C.
- MWH reported that it performed the annual plant maintenance during the week of October 2. All plant systems were shut down in order to clean system components, perform inspections, and replace spent components. The GWTP resumed operation on Thursday October 5.
- MWH reported that the GWTP was not operational during those periods when the thermal oxidizer units were not operational because of the inability to treat the gasses generated in the GWTP.
- MWH reported that it measured water levels in all ISVE monitoring locations on October 19 as part of the monthly monitoring plan.
- Observed MWH continue to operate the Onsite Containment Area (ONCA) SBPA and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermal oxidizer units 1 and 2 (thermox 1 and 2).

- MWH reported that thermox 1 operated for 349 hours of the 672 hours (52%) in the October period, processing 1,000 cfm of vapors from the ONCA SBPA ISVE system, collecting vapors from 33 (of the total 46) ISVE wells that have been used during previous reporting periods.
- MWH reported that thermox 1 did not operate during the MWH reported that thermox 1 did not operate during the period of the annual plant maintenance and for an additional 3 days because of problems with gaskets.
- MWH reported that thermox 2 operated for 432 of the 672 hours (64%) in the October period, processing 2,000 cfm of vapors collected from all 42 OFCA ISVE wells and aeration tank T-102.
- MWH reported that thermox 2 did not operate during the period of the annual plant maintenance. It was restarted on October 6.
- MWH reported that it conducted the monthly compliance sampling of thermox 1 and 2 on October 19.
- MWH reported that it pumped 10 gallons of product from well SVE-53 on October 24.
- MWH had previously reported that the pumps would be reinstalled in dual-phase extraction ISVE wells SVE-61 and SVE-79 following well cleaning. However, MWH observed that the viscous product in these wells remained (or returned) after cleaning, and concluded that the pneumatic pumps would not be appropriate for this application. MWH is evaluating the ability to use the temporary pumping setup at these locations.
- MWH reported that air was injected through the five Group 3 (SVE-44, -59, -77, -80, and -84) ISVE wells in late September through late October. From October 19 onward, air was injected into the SBPA through the Group 1 (SVE-50, -54, -73, -79, and -81) ISVE wells, each flowing at about 20 cfm.
- MWH reported that it had installed eye wash stations in both the ONCA and OFCA ISVE blower sheds.
- MWH re-sampled the residential water well at 1009 Reder Road on October 19 because of concerns about trace levels of some compounds of concern that were not screened out in the data validation of samples collected in September.
- The residential well samples were scheduled for analysis of VOCs as specified in the *Revised Long-Term Groundwater Monitoring Plan* for the ACS site, issued in September 2002.
- Completed monthly oversight report (with field notes and photographs) for the September reporting period. Submitted Monthly Oversight Summary Report No. 69 to EPA on October 18.
- Site Manager provided periodic reports of field activities to the EPA TOPO via telephone and E-mail.

Topics of Concern: None

Concern Resolution: None

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.

- MWH to continue operating Group 1 air injection wells in the SBPA.
- MWH to monitor odors in the ACS break room.
- MWH to continue pumping product from selected ONCA SBPA DPE wells.
- MWH to conduct Lower Aquifer Phase 3 Investigation, including installation of pumps in existing lower aquifer wells in the area of MW53 and burial of conveyance piping and electrical and control conduit from the area of MW53 to the GWTP.
- MWH will continue construction coordination meetings at the site when field activities warrant such meetings.
- MWH will continue monthly O&M meetings to report on operation of active treatment systems.

Signature: Larry Campbell Date: November 15, 2006

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SITE STATUS MEETING MINUTES
FOR OCTOBER 5, 2006 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA

MEETING DATE: Thursday, October 5, 2006

MEETING TIME: 10:00 a.m.

MEETING LOCATION: MWH Chicago Office

ATTENDEES:
Larry Campbell – Black & Veatch
Kevin Adler – U.S. EPA (via phone)
Peter Vagt – MWH
Chris Daly – MWH
David Powers - MWH
Lee Orosz – MWH (via phone)

TOPICS:

SITE STATUS

General Site Health and Safety
There have been no health and safety incidents since the last meeting held on September 9th.

On Monday, October 2nd, plant systems were shut down for the annual maintenance event. This involved shutting down both the ISVE systems and Groundwater Treatment System. The annual maintenance activities were conducted on Tuesday and Wednesday (October 3rd and 4th). Maintenance activities included cleaning system components and vessels, performing inspections, and replacement of spent components. Health and safety concerns associated with this work included confined space entry, use of man-lift, exposure to contaminants, heavy lifting, slips, trips, and falls. Tailgate Safety Meetings were performed everyday prior to work. The work was performed safely and with no incidents. It was anticipated that the GWTP would be brought back on-line on Thursday, October 5th and the ISVE and Thermal Oxidizer systems would be restarted on October 6th.

Eyewash stations for inside the blower sheds have been ordered. The eyewash stations are expected to arrive during the month of October and will be installed in both ISVE blower sheds.

Trenching work for the Lower Aquifer Phase 3 project continued on Monday, September 11th. Despite de-watering activities, the ground surface in the wetlands is still soft due to excessive rains. A track-mounted rig with trenching capabilities was brought in to attempt to construct the remaining portion (150 feet) of the piping trench to the lower aquifer wells. Approximately 100 feet of trench and piping were installed before

the progress was halted because the track-mounted rig could not advance further on the saturated soils. An available back-hoe was used to extricate the track-mounted rig. The piping that was installed was laid, tightness-tested, and then backfilled. No health and safety incidents occurred.

Biological hazards such as mosquitoes and poison ivy continue to be present.

Groundwater Treatment Plant (GWTP) Status

The GWTP operated 98 percent of the time from August 25th to September 29th (826 out of 840 hours). No major issues occurred with the GWTP since the last meeting on September 9th. Pumping is occurring from all sources except MW-10C. The pump in MW-10C will be brought back on line upon completion of the Lower Aquifer Pumping System.

Off-Site Area/SBPA ISVE Systems

The Off-Site Area In-situ Soil Vapor Extraction (ISVE) System was operational for 61 percent of the time from August 25th to September 29th (514 out of 840 hours). All 42 ISVE wells and 3 air sparge wells are active.

The Still Bottoms Pond Area (SBPA) ISVE system was operational for 53 percent of the time from August 25th to September 29th (442 out of 840 hours). Air Injection Well Group 2 and associated ISVE wells were active until September 27th. Air Injection Well Group 3 and associated ISVE wells were active after September 27th.

Downtimes for both ISVE systems were related to maintenance activities associated with the thermal oxidizers, ISVE well cleaning activities (during the last week of August), and replacement of a blower motor (SBPA only).

ThermOx 1 was shut down during the month for routine maintenance activities. Thermal Oxidizer 2 (ThermOx 2) was shut down during the month due to continued problems with the pH control system. The pH probe difficulties seem to have been resolved at this point.

Interaction with ACS Facility and Community

The Augustana Lutheran Church's confirmation class visited the site for a guided tour on September 26th.

A Health and Safety meeting to include both ACS and MWH personnel is planned for October 30th. On October 31st, personnel from the ACS facility will tour the MWH GWTP to become familiar with MWH operations as well as Health and Safety issues associated with MWH activities.

3rd Quarter Groundwater and Residential Well Sampling Event

MWH completed the 3rd Quarter Groundwater and Residential Well Sampling Event between September 15th and 22nd. The sampling activities included collecting groundwater samples from the newly installed sentinel wells (MW58 and MW59), north of the site. Additionally, groundwater samples from five residential homes were

collected in accordance with the LTGMP. David Powers, MWH Field Team Leader, lead the daily tailgate safety meetings each during groundwater monitoring activities.

During the Site Status Meeting, the results from the Groundwater Sampling Event were discussed. Laboratory results for samples collected from the upper and lower aquifer indicated concentrations of contaminants that were similar or declining when compared to the results from past sampling events. Samples collected from the sentinel wells were non-detect for the compound benzene. The concentration of benzene in the sample from lower aquifer well MW53 remained similar to previous sampling results.

Several VOCs were detected in residential well samples at trace levels although they are flagged as non-representative, due to method blank contamination. Several VOCs were detected in samples collected from 1002 Reder Road, although this resident is connected to Town of Griffith Public Water Supply.

Validated sample results from the residential sampling will be available the week beginning October 8. Laboratory packets reporting these results will be forwarded the U.S. Environmental Protection Agency for distribution to the residents. Results from the Full-Scale Monitoring Event will be provided in the 3rd Quarter Groundwater Monitoring Report.

Trenching activities associated with Phase 3 of the Lower Aquifer Investigation continued during the month. Saturated soil conditions continue to prevent completion of this task. MWH has repeatedly attempted to continue construction activities and will continue to do so when conditions allow. Sampling results from the lower aquifer sentinel wells (MW58 and MW59) indicate that benzene in the lower aquifer has not migrated to the locations of these wells. Because these results indicate benzene has not migrated to this point the installation of the Lower Aquifer Pumping System is considered not as urgent as originally anticipated. During the Site Status Meeting, it was discussed that further construction will be delayed until ground conditions in the wetlands allow for completion of trenching activities, possibly until the Spring of 2007.

LOOK AHEAD

Field Events

- ISVE System Monitoring – October 24 (tentative)
- Lower Aquifer Pumping System Construction - Ongoing

Reports

- Quarterly Status Report, 3rd Quarter – October 2006
- Quarterly Monitoring Report, Active Treatment Systems, 3rd Quarter – November 2006
- Groundwater Monitoring Report, 3rd Quarter –December 2006

Health & Safety Look Ahead

- ACS and MWH Annual Health and Safety Meeting is scheduled for October 30 and 31st.

- Proper PPE should be worn during monthly ISVE system monitoring.
- Precautions should be taken during trenching activities associated with the Phase 3 Lower Aquifer Investigation (delayed due to unsafe ground conditions).
- Alternating personnel will continue to conduct tailgate safety meetings to combat complacency in our routine activities.
- Eyewash stations will be installed within the ISVE blower sheds.

Future Meetings

Monthly Site Status Meeting – Thursday, November 9, 2006, 10 a.m. at the MWH Chicago office.

DPP/CAD/PJV
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Remedial Progress Report	October-06	Report Date: 11/3/2006

GWTP & Dewatering

The GWTP was operational for 604 out of 672 hours (90%) from September 29 to October 27.
Total Gallons treated = 841,866 gallons since 9/29/06 (28 days)

Tables, Graphs & Figures
Table - Effluent Summary
Graphs - Off-Site Dewatering
Graphs - SBPA Dewatering

SBPA ISVE System

System operational 349 out of 672 hours (52 %) from September 29 to October 27.
System monitoring was conducted on 10/19/06.
The next monitoring event is tentatively scheduled for 11/16/06.

Tables, Graphs & Figures
Table - Sampling Data
Graph - Mass Extraction
Graph - Total VOC Removal

Product Removal

	06/30/06	07/18/06	07/21/06	08/16/06	10/24/06
SVE-52	-	-	-	-	-
SVE-53	35 gal	-	14 gal	-	10 gal
SVE-62	-	-	-	-	-
SVE-72	-	18 gal	-	12 gal	-
SVE-88	-	-	-	-	-
DPE 61	-	-	-	-	-

Notes:
Product removal was resumed in October.

Current Status (as of 10/19)

Active Wells (33 of 46)	
SVE-43	SVE-66
SVE-44	SVE-67
SVE-45	SVE-68
SVE-46	SVE-69
SVE-47	SVE-70
SVE-48	SVE-71
SVE-49	SVE-74
SVE-51	SVE-75
SVE-55	SVE-76
SVE-56	SVE-80
SVE-57	SVE-82
SVE-58	SVE-83
SVE-59	SVE-84
SVE-60	SVE-85
SVE-63	SVE-86
SVE-64	SVE-87
SVE-65	
Air Injection Wells (Group 1)	
SVE-50	
SVE-54	
SVE-73	
SVE-79	
SVE-81	

Off-Site ISVE System

System operational 432 out of 672 hours (64%) from September 29 to October 27.
System monitoring was conducted on 10/19/06.
The next monitoring event is scheduled for 11/16/06.

Tables, Graphs & Figures
Table - Sampling Data
Graph - Mass Extraction
Graph - Total VOC Removal

Current Status (as of 10/19)

Active Wells (42 of 42)	
SVE-01	SVE-22
SVE-02	SVE-23
SVE-03	SVE-24
SVE-04	SVE-25
SVE-05	SVE-26
SVE-06	SVE-27
SVE-07	SVE-28
SVE-08	SVE-29
SVE-09	SVE-30
SVE-10	SVE-31
SVE-11	SVE-32
SVE-12	SVE-33
SVE-13	SVE-34
SVE-14	SVE-35
SVE-15	SVE-36
SVE-16	SVE-37
SVE-17	SVE-38
SVE-18	SVE-39
SVE-19	SVE-40
SVE-20	SVE-41
SVE-21	SVE-42

Comments

Data presented herein is for informational purposes only. Not all data presented in this report has been validated.
Annual plant maintenance activities were performed that resulted in ISVE systems being down for several days during October.

Table
Summary of Effluent Analytical Results
Groundwater Treatment System
American Chemical Service NPL Site
Griffith, Indiana

Event Date	Month 111 8/7/2006	Month 112 9/12/2006	Month 113 10/11/2006	Effluent Limits	Lab Reporting Limits
pH	7.11	7.14	7.45 /	6-9	none
TSS	NS	NS	0.800 B/	30	10
BOD	NS	NS	NA	30	2
Arsenic	NS	NS	9.5 B/	50	3.4
Beryllium	NS	NS	0.45 B/	NE	0.2
Cadmium	NS	NS	0.20 U/	4.1	0.3
Manganese	NS	NS	0.10 U/	NE	10
Mercury	NS	NS	0.10 U/	0.02 (w/DL = 0.64)	0.64
Selenium	NS	NS	2.5 U/	8.2	4.3
Thallium	NS	NS	3.2 U/	NE	5.7
Zinc	NS	NS	1.1 B/	411	1.2
Benzene	0.50 U/	0.50 U/	0.50 U/	5	0.5
Acetone	2.5 U/	3.1 B/	2.5 U/	6,800	3
2-Butanone	2.5 U/	2.5 U/	2.5 U/	210	3
Chloromethane	0.50 U/	0.50 U/	0.50 U/	NE	0.5
1,4-Dichlorobenzene	0.50 U/	0.50 U/	0.50 U/	NE	0.5
1,1-Dichloroethane	0.97	0.50 U/	0.50 U/	NE	0.5
cis-1,2-Dichloroethene	0.92	0.50 U/	0.58 /	70	0.5
Ethylbenzene	0.50 U/	0.50 U/	0.50 U/	34	0.5
Methylene chloride	0.20 J/	0.50 U/	0.45 J/	5	0.6
Tetrachloroethene	0.50 U/	0.50 U/	0.50 U/	5	0.5
Trichloroethene	0.50 U/	0.50 U/	0.50 U/	5	0.5
Vinyl chloride	0.42 J/	0.50 U/	0.50 U/	2	0.5
4-Methyl-2-pentanone	2.5 U/	2.5 U/	2.5 U/	15	3
bis (2-Chloroethyl) ether	NS	NS	ND	9.6	9.6
bis(2-Ethylhexyl) - phthalate	NS	NS	ND	6	6
4 - Methylphenol	NS	NS	ND	34	10
Isophorone	NS	NS	ND	50	10
Pentachlorophenol	NS	NS	0.28 JB/	1	1
PCB/Aroclor-1016	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1221	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.92*
PCB/Aroclor-1232	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1242	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1248	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1254	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1260	NS	NS	ND	0.00056 (w/DL = 0.1 to 0.9)	0.5

Notes:

Bolded result indicates a exceedence of the discharge limit
pH data is expressed in S.U.
Metals, VOC, SVOC and PCB data is expressed in ug/L
ND = Not detected
NS = This analyte was not sampled or analyzed for
NE = No effluent limit established.
NA = Not available.
DL = Detection limit
* = Approved SW-846 method is incapable of achieving effluent limit.

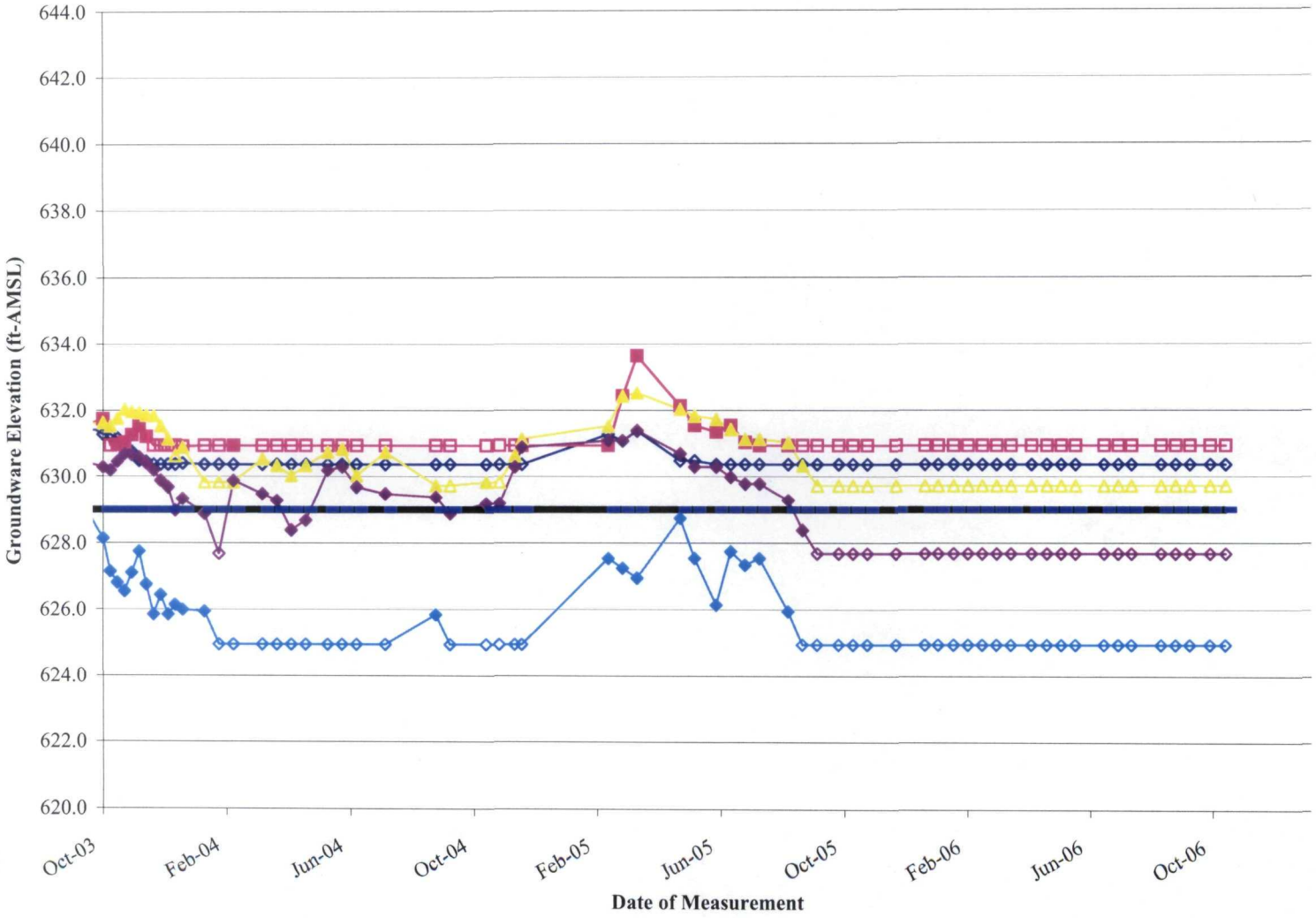
DRAFT VERSION
For Informational Purposes Only

Not all data presented here has been validated.
Notes and suffix definitions have not been updated.

Suffix Definitions:

_/ = Data qualifier added by laboratory
/_ = Data qualifier added by data validator
J = Result is estimated
B = Compound is also detected in the blank
UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value
JB = Result is detected below the reporting limit and is an estimated concentration. The compound is also detected in the method blank resulting in a potential high bias
UB = Compound or analyte is not detected at or above the indicated concentration due to blank contamination
UBJ = Analyte is not detected at or above the indicated concentration due to blank contamination, however the calibration was out of range. Therefore the concentration is estimated.

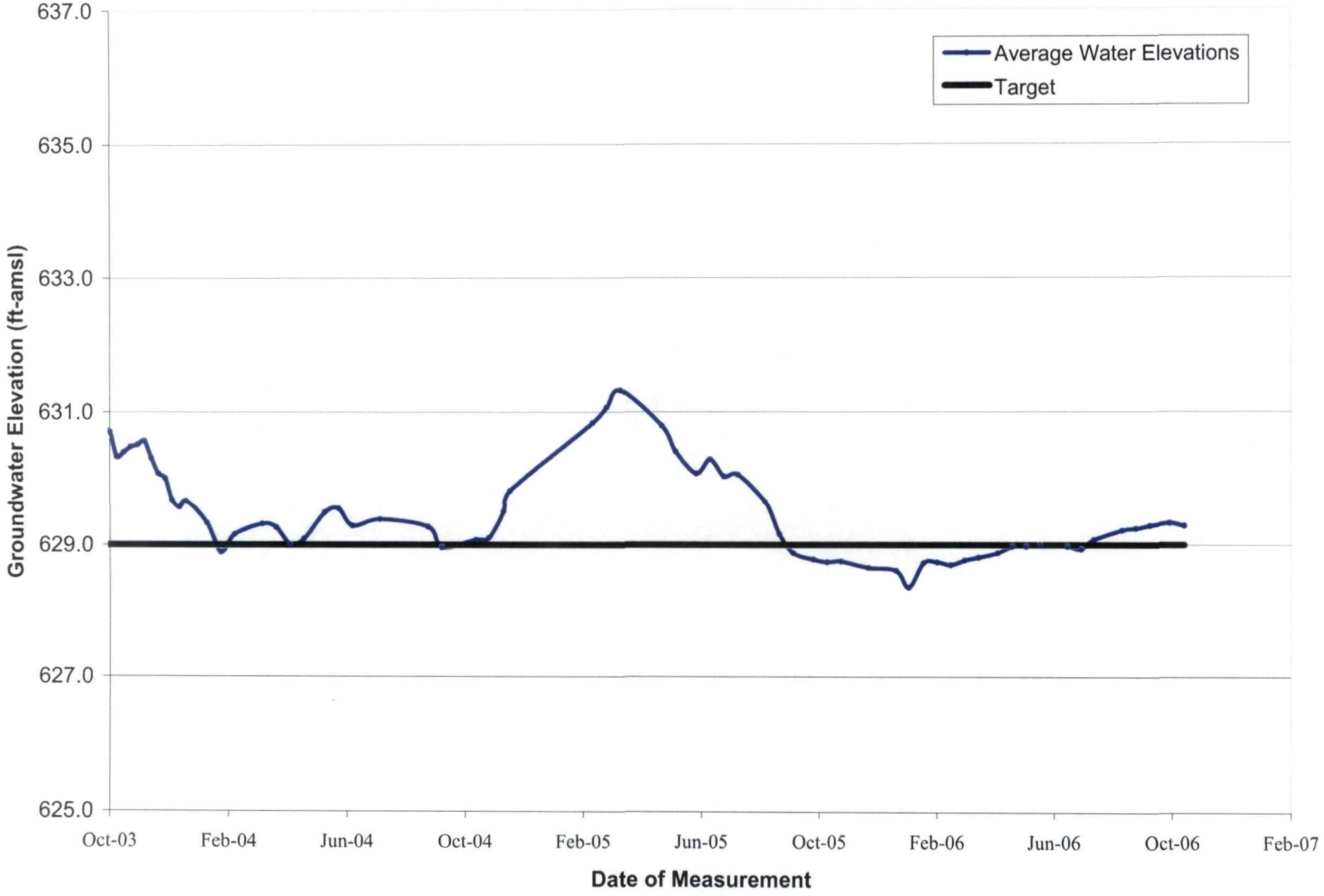
Figure 1
SBPA Water Level Status
ACS NPL Site
Griffith, Indiana



Notes:
1. Hollow points represent dry piezometers (data used for graphing purposes only).
2. The bottom elevation of the piezometers may vary due to silting of the well or removal of silt.

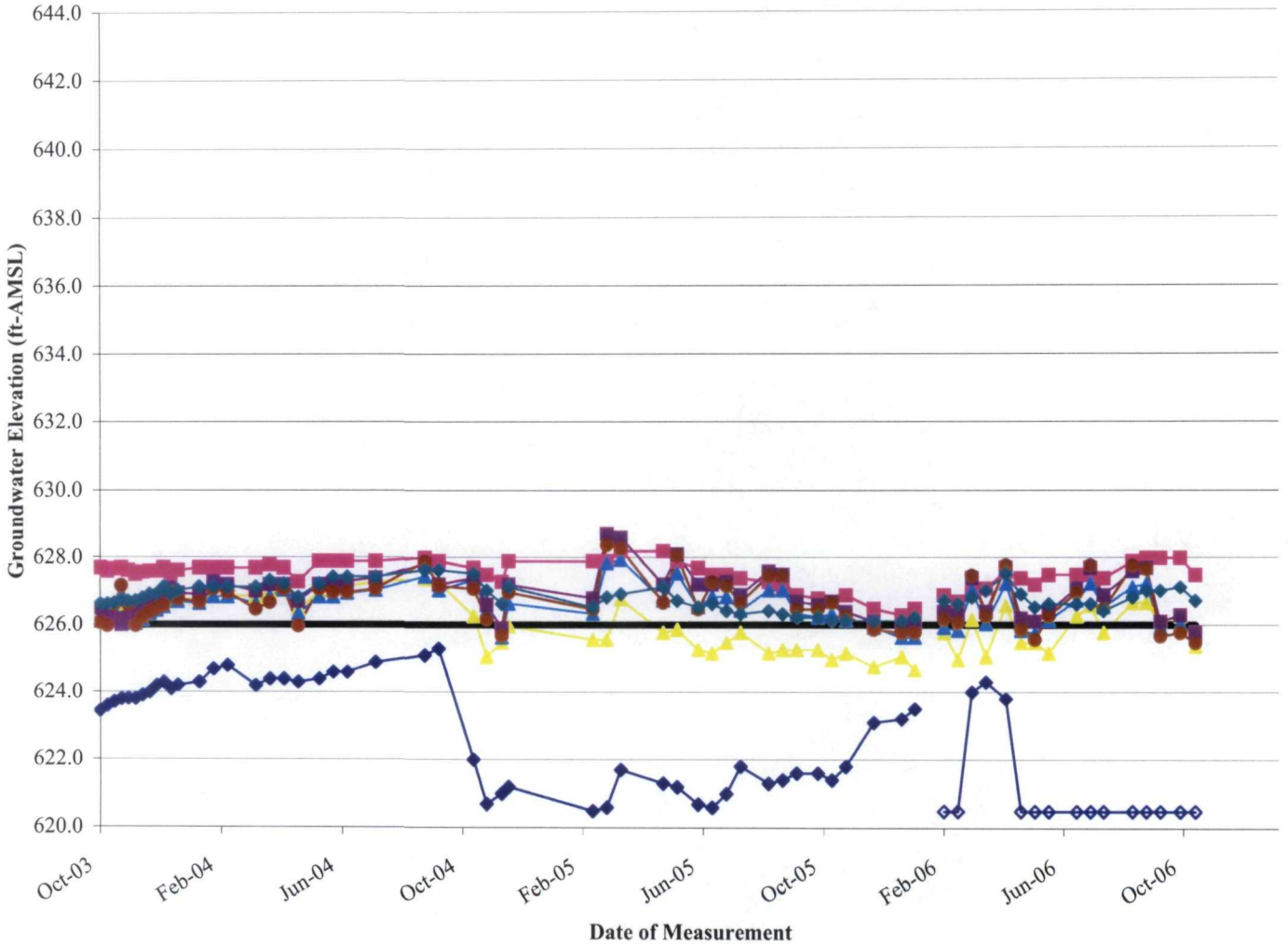
JEF/CDC/CAD
J:/209/0603ACS/0301 GWTP/BWES Data/BWES Performance.2006.xls/On-Site Chart

On-Site Average Water Elevations



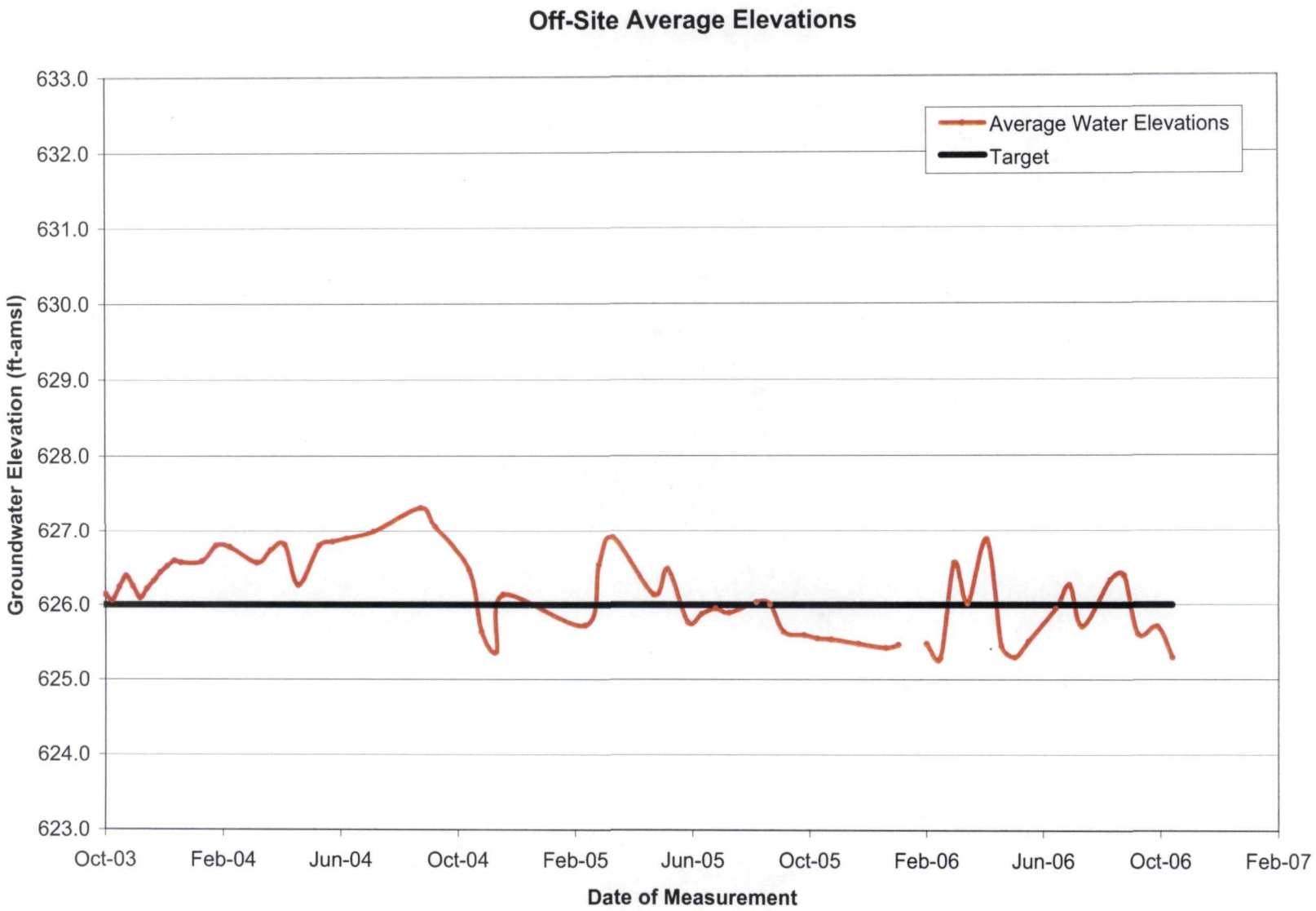
JEF/TPC/CDC/CAD
209\0603 ACS\0301 GWTP\BWES and Dewatering Data\BWES Performance.2006.xls[On-Site Average Chart]

Figure 3
Off-Site Water Level Status - Piezometers
Groundwater Monitoring
ACS NPL Site
Griffith, Indiana



Notes:
1. Hollow points represent dry piezometers (data used for graphing purposes only).
2. The bottom elevation of the piezometers may vary due to silting of the well or removal of silt.

JEF/CDC/CAD
J:/209/0603 ACS/0301 GWTP/BWES and Dewatering Data/BWES Performance.2006.xls/Off-Site Chart



JEF/TPC/CDC
209\0603 ACS\0301 GWTP\BWES and Dewatering Data\BWES Performance.2006.xls[Off-Site Average Chart]

Table 3
SBPA and Off-Site ISVE System Results
for Method TO-14 (VOCs) - September 2006
American Chemical Service
Griffith, Indiana

		Sampled 9/19/2006			
Compounds	**Units**	**SBPA ISVE**		**Off-Site ISVE**	
1,1,1-Trichloroethane	ppbv	11,000		30,000	
1,1,2,2-Tetrachloroethane	ppbv	ND	U	ND	U
1,1,2-Trichloroethane	ppbv	ND	U	ND	U
1,1-Dichloroethane	ppbv	1,600		3,600	
1,1-Dichloroethene	ppbv	300		340	
1,2-Dichloroethane	ppbv	250		980	
1,2-Dichloropropane	ppbv	270		250	J/J
2-Butanone (Methyl Ethyl Ketone)	ppbv	690	J/J	38,000	
2-Hexanone	ppbv	ND	U	400.0	J/J
4-Methyl-2-pentanone	ppbv	1,100		11,000	
Acetone	ppbv	970		35,000	
Benzene	ppbv	4,800		18,000	
Bromodichloromethane	ppbv	ND	U	ND	U
Bromoform	ppbv	ND	U	ND	U
Bromomethane	ppbv	ND	U	ND	U
Carbon Disulfide	ppbv	ND	U	ND	U
Carbon Tetrachloride	ppbv	ND	U	ND	U
Chlorobenzene	ppbv	90	J/J	92.0	J/J
Chloroethane	ppbv	140	J/J	ND	U
Chloroform	ppbv	5,100		2,100	
Chloromethane	ppbv	ND	U	ND	U
cis-1,2-Dichloroethene	ppbv	12,000		2,200	
cis-1,3-Dichloropropene	ppbv	ND	U/R	ND	U/R
Dibromochloromethane	ppbv	ND	U	ND	U
Ethyl Benzene	ppbv	10,000		19,000	
m,p-Xylene	ppbv	45,000		86,000	
Methylene Chloride	ppbv	3,200		32,000	
o-Xylene	ppbv	18,000		30,000	
Styrene	ppbv	ND	U	ND	U
Tetrachloroethene	ppbv	32,000		31,000	
Toluene	ppbv	59,000		150,000	E
trans-1,2-Dichloroethene	ppbv	130	J/J	ND	U
trans-1,3-Dichloropropene	ppbv	ND	U	ND	U
Trichloroethene	ppbv	14,000		21,000	
Vinyl Chloride	ppbv	3,500		150	J/J
Total	**ppbv**	**223,140**		**511,112**	
Total	**lb/hr**	**2.880**		**12.475**	

Notes:
NC - Not calculated
ND - Non-detect
ppbv - parts per billion volume
lb/hr - pounds per hour

Qualifiers:
J - Result is estimated
U - below reported quantitation limit
_/ - Laboratory data qualifier
/_ - Data validation qualifier

System	Date	Temp (F)	Flow (scfm)
SBPA	09/19/06	78	1,811
Onsite	09/27/06	186	857

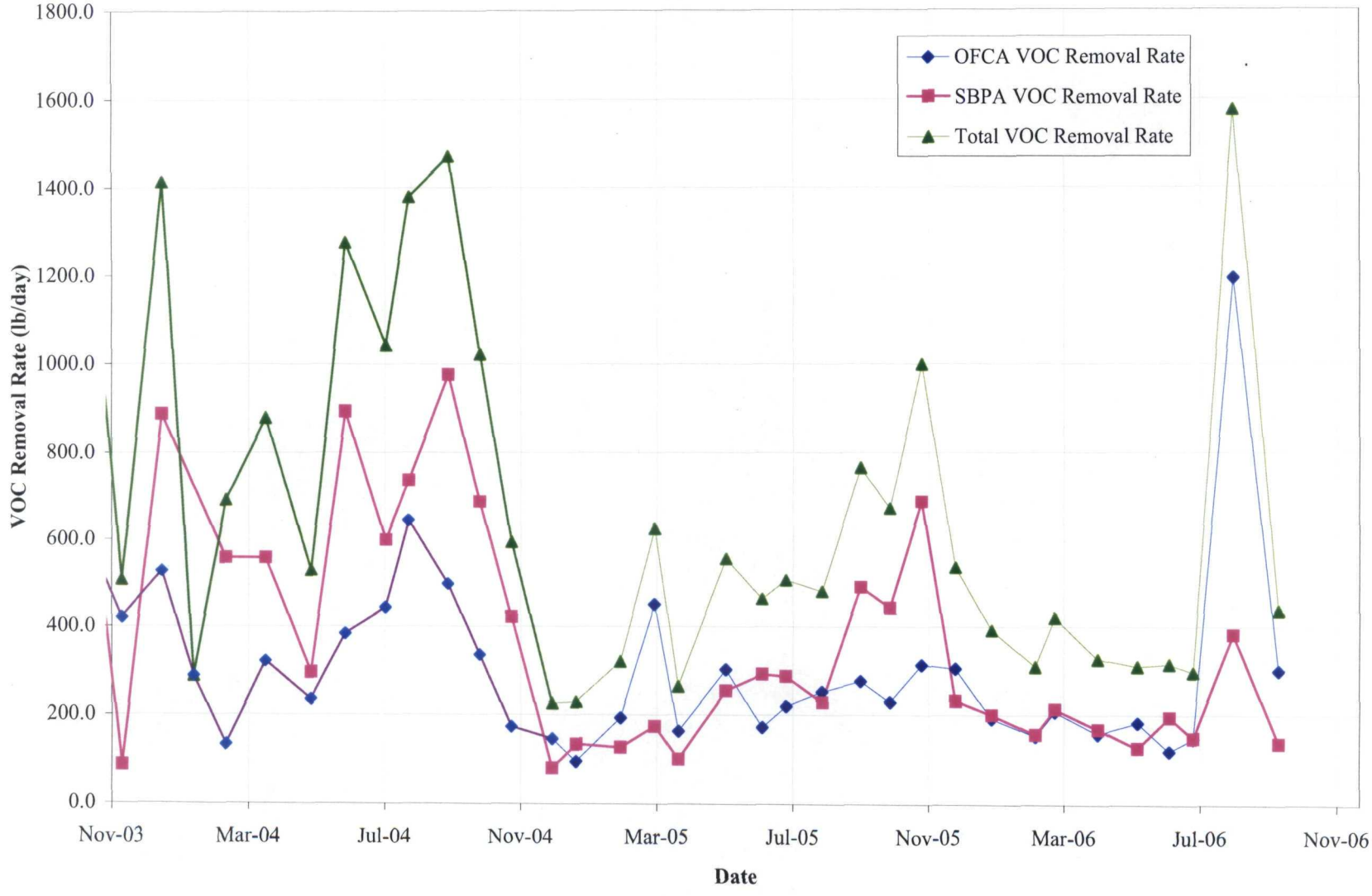
Table 6
SBPA and Off-Site ISVE System Results
for Method TO-13 (SVOCs) - Semptember 2006
American Chemical Service
Griffith, Indiana

		Sampled 9/19/2006			
Compounds	**Units**	**SBPA ISVE**		**Off-Site ISVE**	
1,2,4-Trichlorobenzene	µg	7.8		6.8	
1,2-Dichlorobenzene	µg	49		110	
1,3-Dichlorobenzene	µg	5.3		4	
1,4-Dichlorobenzene	µg	11		12	
2,4,5-Trichlorophenol	µg	ND	U	ND	U
2,4,6-Trichlorophenol	µg	ND	U	ND	U
2,4-Dichlorophenol	µg	ND	U	ND	U
2,4-Dimethylphenol	µg	ND	U	3.5	J/J
2,4-Dinitrophenol	µg	ND	U	ND	U
2,4-Dinitrotoluene	µg	ND	U	ND	U
2,6-Dinitrotoluene	µg	ND	U	ND	U
2-Chloronaphthalene	µg	ND	U	ND	U
2-Chlorophenol	µg	ND	U	ND	U
2-Methylnaphthalene	µg	12		28	
2-Methylphenol (o-Cresol)	µg	ND	U	ND	U
2-Nitroaniline	µg	ND	U	7	J/J
2-Nitrophenol	µg	ND	U	ND	U
3,3'-Dichlorobenzidine	µg	ND	U	ND	U
3-Nitroaniline	µg	ND	U	ND	U
4,6-Dinitro-2-methylphenol	µg	ND	U	ND	U
4-Bromophenyl-phenyl Ether	µg	ND	U	ND	U
4-Chloro-3-methylphenol	µg	ND	U	ND	U
4-Chloroaniline	µg	ND	U	ND	U
4-Chlorophenyl-phenyl Ether	µg	ND	U	ND	U
4-Methylphenol/3-Methylphenol	µg	ND	U	ND	U
4-Nitroaniline	µg	ND	U	ND	U
4-Nitrophenol	µg	ND	U	ND	U
Acenaphthene	µg	ND	U	ND	U
Acenaphthylene	µg	ND	U	ND	U
Anthracene	µg	ND	U	ND	U
Benzo(a)anthracene	µg	ND	U	ND	U
Benzo(a)pyrene	µg	ND	U	ND	U
Benzo(b)fluoranthene	µg	ND	U	ND	U
Benzo(g,h,i)perylene	µg	ND	U	ND	U
Benzo(k)fluoranthene	µg	ND	U	ND	U
bis(2-Chloroethoxy) Methane	µg	ND	U	ND	U
bis(2-Chloroethyl) Ether	µg	3.7		8.2	
bis(2-Ethylhexyl)phthalate	µg	4.6	J/J	9.4	
Butylbenzylphthalate	µg	ND	U	ND	U
Chrysene	µg	ND	U	ND	U
Dibenz(a,h)anthracene	µg	ND	U	ND	U
Dibenzofuran	µg	ND	U	ND	U
Diethylphthalate	µg	ND	U	0.98	J/J
Dimethylphthalate	µg	ND	U	ND	U
di-n-Butylphthalate	µg	1.1	J/J	0.86	J/J
Di-n-Octylphthalate	µg	ND	U	ND	U
Fluoranthene	µg	ND	U	ND	U
Fluorene	µg	ND	U	ND	U
Hexachlorobenzene	µg	ND	U	ND	U
Hexachlorobutadiene	µg	12		10	
Hexachlorocyclopentadiene	µg	ND	U	10	J/J
Hexachloroethane	µg	ND	U	ND	U
Indeno(1,2,3-c,d)pyrene	µg	ND	U	ND	U
Isophorone	µg	8.7		68	
Naphthalene	µg	23		120	
Nitrobenzene	µg	ND	U	ND	U
N-Nitroso-di-n-propylamine	µg	ND	U	ND	U
N-Nitrosodiphenylamine	µg	ND	U	ND	U
Pentachlorophenol	µg	ND	U	ND	U
Phenanthrene	µg	ND	U	ND	U
Phenol	µg	ND	U	ND	U
Pyrene	µg	ND	U	ND	U
Total	µg	**138.20**		**386.74**	

Notes:
µg - Microgram
NC - Not calculated
ND - Non-detect

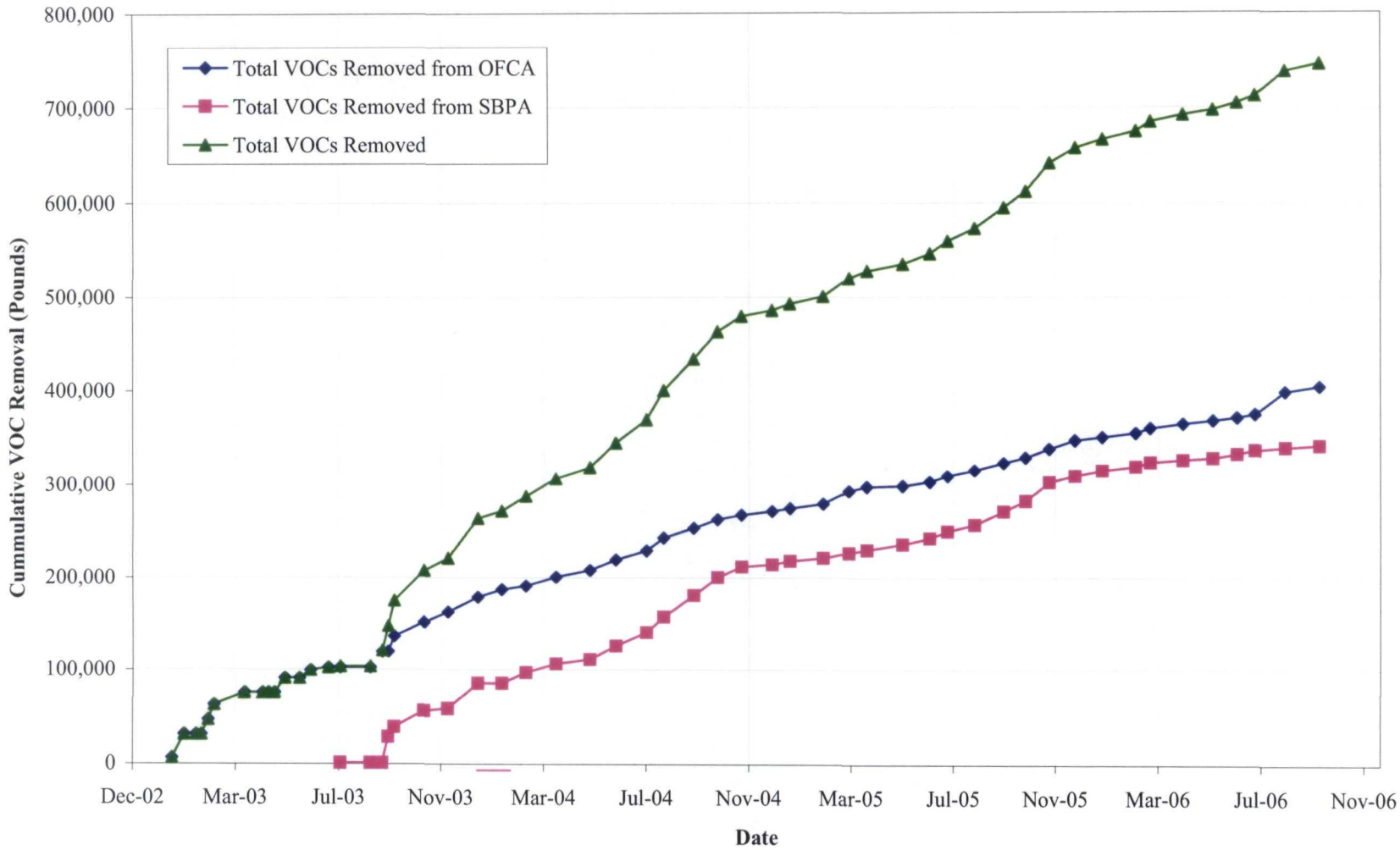
Qualifiers:
J - Result is estimated
U - below reported quantitation limit
_/ - Laboratory data qualifier
/_ - Data validation qualifier

VOC Removal Rate
American Chemical Services NPL Site, Griffith, IN



CDC/CAD
J:\jobs\405\0577 ACS\0201 Engr\Remedial System Metrics\ISVE\ISVE Mass Removal.xls\VOC Removal Rate

Total VOCs Removed
American Chemical Services NPL Site, Griffith, IN



CDC/CAD
J:\jobs\405\0577 ACS\0201 Engr\Remedial System Metrics\ISVE\ISVE Mass Removal.xls\Total VOCs Removed

19 OCT 06 Thur

0900 Arrive Onsite - Cloudy
Calm Chilly

Personnel Onsite
Justin Finger MWH
Lee Oresz MWH
Tim Kirkland Austgen
Carlos Olduv MWH
Larry Campbell BvSPC
David Powers MWH
Mike Chenoweth
Kevin Fairy
of Microbac

0915 D/w Lee re recent operations at site. GWTP running well. Also ISVE systems. Got 1.5" rain Sun-Mon so LA Conveyance trench continues to fill w/ water. Probably can't complete trench until ground freezes this winter or drys out next spring

0925 Go to SBPA ISVE blower shed to observe Justin & Carlos performing ISVE System monitoring

0927 Photo 93-01 looking W into SBPA ISVE Blower shed at MWH crew taking measurements on ISVE system

LM Campbell

0933 Photo 93-02 looking N inside SBPA ISVE blower shed at new eye wash system

0941 Photo 93-03 looking NW at new/repaired blower motor re-installed in SBPA ISVE blower shed

0944 Photo 93-04 looking W at new gate valve installed in vacuum line in SBPA ISVE shed

0956 Photo 93-05 looking N at Matt checking VOC levels in vacuum lines @ SBPA ISVE system

1020 Completed Sampling in SBPA blower shed Matt taking GW level readings in SBPA

1100 Met Dave Powers - Planning to resample Residential well at 1009 Reder Rd.

1200 Dave Started purging well at 1009 Reder Rd. Actually Connected to Spigot at house

1205 Photo 93-06 looking N at hose connected to Water Spigot at 1009 Reder Rd. Water

JM Macpherson

to house provided by well screened in upper aquifer, w/o any filters or softner

1207 Photo 93-07 looking E at hose, Hoorabu Cell and discharge of purge wate to ground.

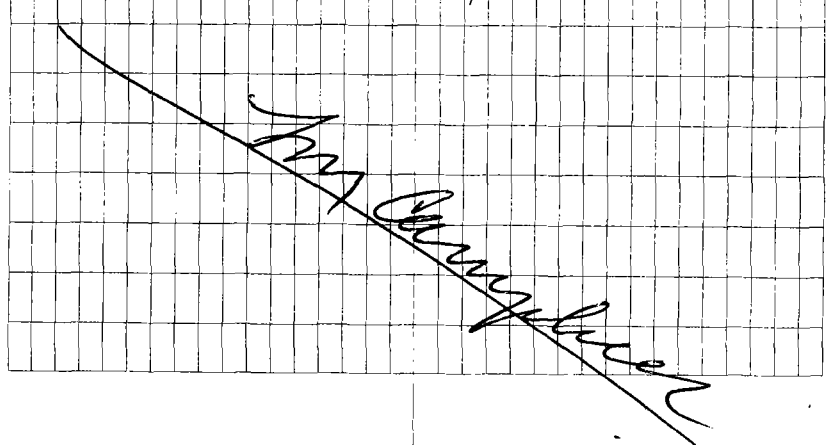
1209 Photo 93-08 looking N at discharge from Hoorabu Cell

1230 Parameters Stabilized, so can collect samples

1231 Photo 93-09 looking down at Drum Collecting VOC Sample directly from Spigot

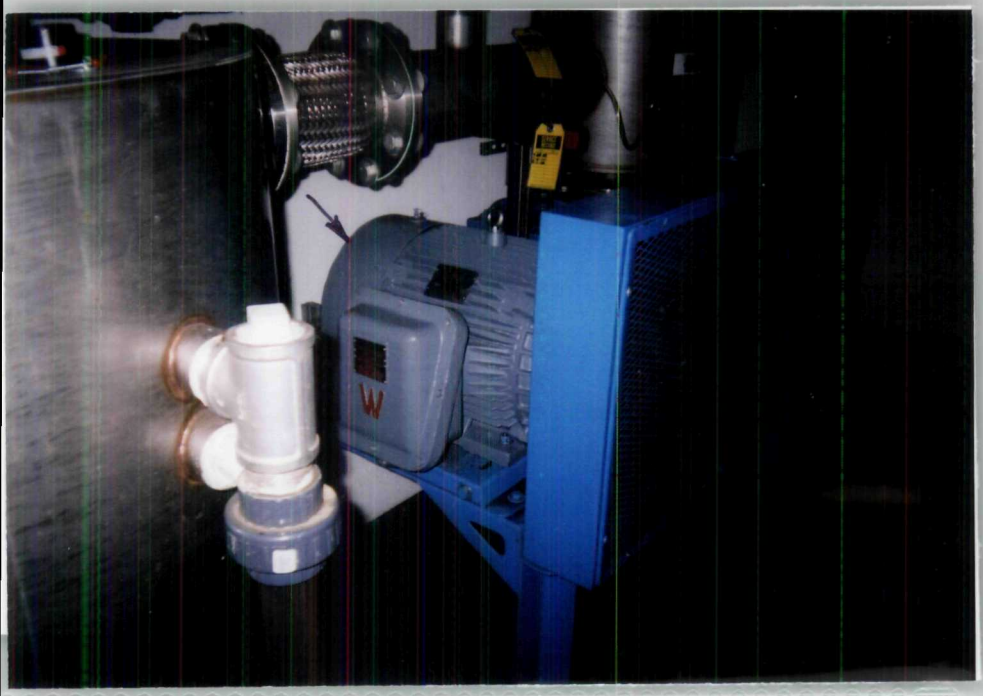
1233 Photo 93-10 looking W at Dave collecting IL Sample from house Spigot

1235 Left Site for day

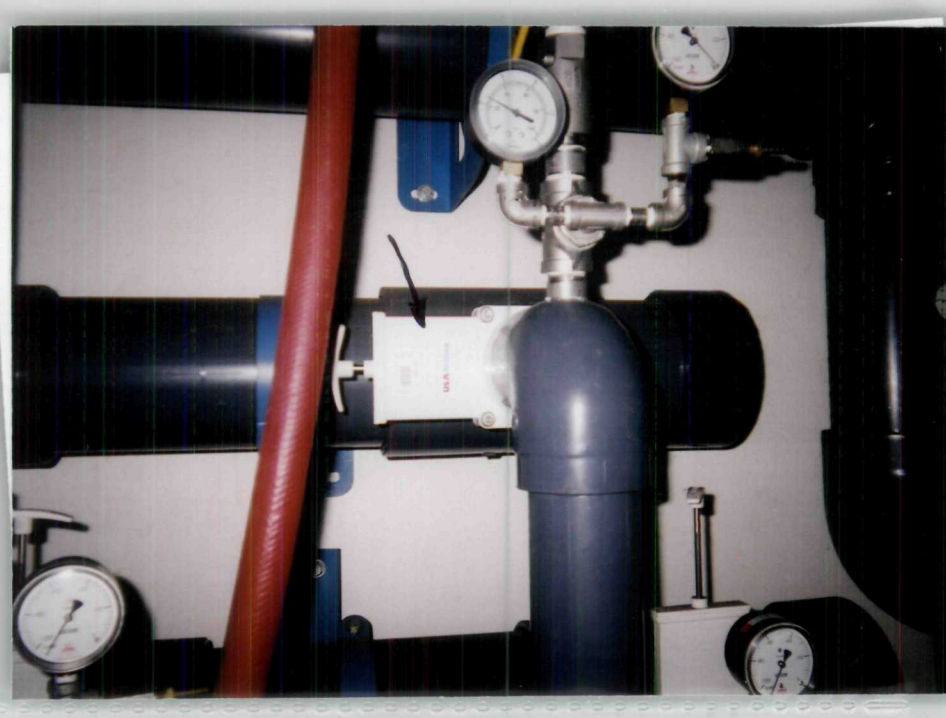


Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #1
Date: 10-19-06 Time: 0927
Photographer: Larry Campbell
Description: Photo facing west into SBPA ISVE blower shed showing MWH crew taking measurements of ISVE system.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #2
Date: 10-19-06 Time: 0933
Photographer: Larry Campbell
Description: Photo facing north inside SBPA ISVE blower shed showing new eye wash station on wall of shed.



Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #3
Date: 10-19-06 Time: 0941
Photographer: Larry Campbell
Description: Photo facing northwest showing new/repaired blower motor re-installed in SBPA ISVE blower shed.



Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #4
Date: 10-19-06 Time: 0944
Photographer: Larry Campbell
Description: Photo facing west showing new gate valve installed in vacuum line in SBPA ISVE blower shed.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #5
Date: 10-19-06 Time: 0956
Photographer: Larry Campbell
Description: Photo facing north showing MWH personnel checking VOC levels in vacuum lines in SBPA ISVE system.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #6
Date: 10-19-06 Time: 1205
Photographer: Larry Campbell
Description: Photo facing north showing hose (green) connected to house water spigot at 1009 Reder Road. Water pumped from upper aquifer without any filters or softeners in the line.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #7
Date: 10-19-06 Time: 1207
Photographer: Larry Campbell
Description: Photo facing east showing green hose, Horiba cell, and discharge of purge water to the ground.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #8
Date: 10-19-06 Time: 1209
Photographer: Larry Campbell
Description: Photo facing north showing discharge from Horiba cell.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]*
Roll: 93 Photo #9
Date: 10-19-06 Time: 1231
Photographer: Larry Campbell
Description: Photo facing down showing Dave collecting VOC sample directly from spigot.

Site: American Chemical Service, Inc.
Proj. #: 44728 AES *[46526 RAC]]*
Roll: 93 Photo #10
Date: 10-19-06 Time: 1233
Photographer: Larry Campbell
Description: Photo facing west showing Dave collecting 1 Liter sample from the house spigot.